

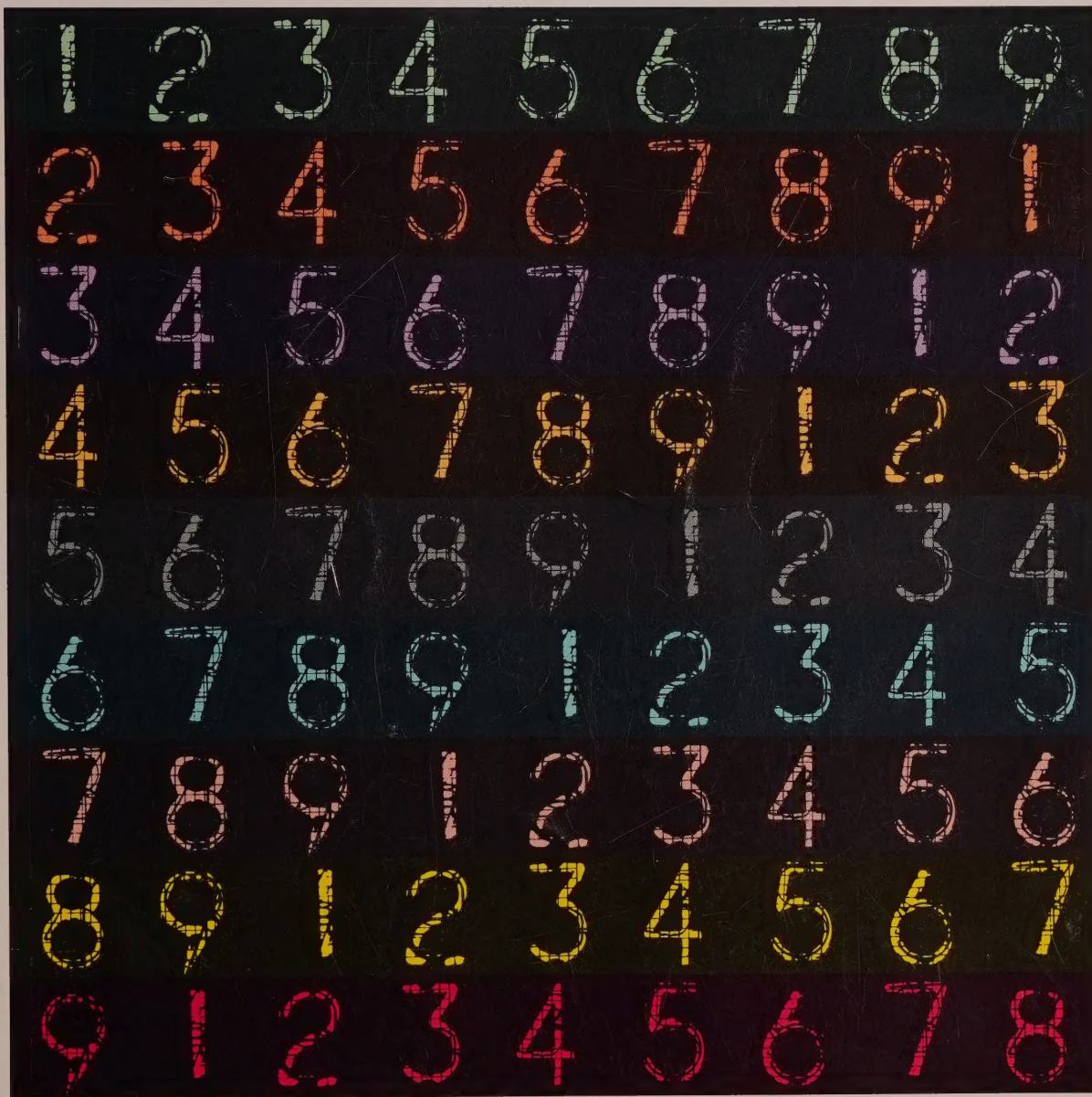
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# COUNTER/TIMER

INSTRUCTION MANUAL

## SD 1979A 100 MHz Prescaler





MODEL 1979A  
100 MHz Prescaler

(NEW PRODUCT TEMPORARY MANUAL)

Syston-Donner Corporation  
888 Galindo Street  
Concord, California 94520



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## OPERATION

The Model 1979A, Prescaler, will accept any input frequency over the range of 100 KHz to 100 MHz. Sensitivity is 0.1 V rms with the maximum input permissible 5 Volts p-p.

Operation is straightforward. Simply connect the input signal to the Model 1979A and set the counter controls for the measurement. The frequency displayed is one tenth the true answer.

The output of the Model 1979A is also available at the front panel. This signal may be used as a triggering signal or may be monitored on an oscilloscope.



## THEORY OF OPERATION

The signal input to the Model 1979A is applied to Q1, a common emitter amplifier. The amplified signal then goes through an Emitter Follower Amplifier and is applied to a modified Schmidt Trigger circuit (Q3 and Q4) which shapes the signal. The output of Q4 is fed to the Prescaling circuit.

The Prescaler is of the ring type. Q5 through Q14 connected in pairs constitute a ring of five. The output of the ring, which is now the input frequency divided by five, is applied to the IC flip-flop circuit through Q15. The flip-flop, IC-1, divides the frequency by two, thus making the total division ten. The signal is then fed through Q16, Common Emitter Amplifier, and then to the counter and output jack.



## MAINTENANCE

The only maintenance required for the Model 1979A is adjustment of the Trigger Level. This adjustment is made as follows:

1. Connect a 100 MHz, 100 mv rms signal to the Model 1979A.
2. Connect an oscilloscope to the output jack of the Model 1979A.
3. Adjust the Trigger Level control for the best square wave on the oscilloscope.
4. Decrease the input frequency in 10 MHz steps. Note that the counter reading is correct and stable.



## SPECIFICATIONS

FREQUENCY (RATE) INPUT: 100 KHz to over 100 MHz.

FREQUENCY OUTPUT: 1/10th frequency of input.

ACCURACY: Absolute

IMPEDANCE: 50 $\Omega$  AC-coupled.

SENSITIVITY: 0.1 v rms, max, 5 v p-p.

READOUT: In-line indicators on counter 0.1 x frequency of  
input.

OUTPUT AMPLITUDE: 0.1 v rms with 50 $\Omega$  load.

AMBIENT TEMPERATUR: 0°C to +55°C.

POWER REQUIREMENTS: 10 watts (from counter).

WEIGHT: 2 lbs. (0.9kg) net; 5 lbs. (2.3kg) shipping.

ACCESSORIES FURNISHED: S-D No. 14824 BNC-BNC Cable 6"

S-D No. S19731 BNC-BNC Cable 4'











## WARRANTY

Systron-Donner instruments are warranted during a period of one year from date of shipment to original purchaser to be free from defects in material and workmanship. This warranty does not apply to vacuum tubes, except as they are warranted by tube manufacturers. The liability of Seller under this warranty is limited to replacing or repairing any instrument or component thereof which is returned by Buyer at his expense during such period and which has not been subjected to misuse, neglect, improper installations, repair, alteration, or accident. Seller shall have the right of final determination as to the existence and cause of a defect. In no event shall Seller be liable for collateral or consequential damages. This warranty is in lieu of any other warranty, express, implied or statutory, and no agreement extending or modifying it will be binding upon Seller unless in writing and signed by a duly authorized officer.

## RECEIVING INSPECTION

Every Systron Donner instrument is carefully inspected and is in perfect working order at the time of shipment. Each instrument should be checked as soon as received. If the unit is damaged in any way or fails to operate, a claim should immediately be filed with the transportation company.

## REPAIRS

Whenever a Systron-Donner instrument requires service, the nearest Systron-Donner representative should be contacted; all representatives will provide immediate service or arrange factory returns when necessary.

Please specify both model and serial number in all correspondence concerning Systron-Donner instruments. Address all inquiries on operation or applications to your nearest sales representative or Sales Manager, Instruments, Systron-Donner Corporation, 888 Galindo Street, Concord, California.

**MP MASTER**



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